Enhancement the properties of ZnAl-LDH for photocatalytic nitrogen reduction reaction by controlling anion intercalation

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$$\varphi = 4.2 \text{ eV}$$

$$E_{\text{VB}} = 2.06 + 4.2 = 6.26 \text{ V vs. } E_{\text{vac}}$$

$$= 6.26 - 4.5 = 1.76 \text{ V vs. NHE}$$
## Table S1. Photocatalytic nitrogen fixation performance of LDH-based materials.

<table>
<thead>
<tr>
<th>Catalyst</th>
<th>Light source</th>
<th>Detection method</th>
<th>organic scavenger</th>
<th>( \text{NH}_3 ) evolution rate/( \mu \text{mol h}^{-1} \text{g}^{-1} \text{cat} )</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>NiV-LDH-11-AMO</td>
<td>Full spectrum</td>
<td>IC (^a)</td>
<td>None</td>
<td>176</td>
<td>[1]</td>
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<tr>
<td>0.5%-CuZnAl-LDH</td>
<td>Full spectrum</td>
<td>IC (^a)</td>
<td>None</td>
<td>110</td>
<td>[2]</td>
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<tr>
<td>ZnAl-LDH-NS</td>
<td>Full spectrum</td>
<td>NR (^b)</td>
<td>None</td>
<td>15.28</td>
<td>[3]</td>
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<tr>
<td>ZnAl-LDH-1h(alkaline etching)</td>
<td>Full spectrum</td>
<td>IC (^a)</td>
<td>None</td>
<td>25.76</td>
<td>[4]</td>
</tr>
<tr>
<td>Sub@ZnAl-LDH</td>
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<td>IC (^a)</td>
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<td>This work</td>
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<td>PMo(_9)V(_3)@ ZnAl-LDH</td>
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<td>IC (^a)</td>
<td>None</td>
<td>89.16</td>
<td>This work</td>
</tr>
</tbody>
</table>

\(^a\) The detection method of ion chromatography.

\(^b\) The detection method of Nessler’s reagent.


